

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings of claims in the application:

**Listing of Claims:**

1. (Currently amended) A nanoparticle processed textile and polymer system, said nanoparticle processed textile and polymer system comprising:  
a textile material having an embedded nanoparticle by diffusion, wherein said embedded nanoparticle is distributed in a gradually diluted pattern, having a higher density at or near the surface of said textile and polymer system and gradually decreasing density toward the core; and  
wherein said nanoparticle is an inorganic nanoparticle or carbon-black.
2. (Original) The nanoparticle processed textile and polymer system of claim 1, wherein said textile material is a member selected from the group consisting of fabric, yarn and fiber.
3. (Previously presented) The nanoparticle processed textile and polymer system of claim 1, wherein said textile material is a member selected from the group consisting of cellulose, cotton, linen, hemp, jute, ramie, wool, mohair, vicuna, silk, rayon, lyocell, acetate, triacetate, azlon, acrylic, aramid, nylon, olefin, polyester, spandex, vinyon, vinal, graphite, metallic textiles, ceramic textiles and mixtures thereof.
4. (Original) The nanoparticle processed textile and polymer system of claim 2, wherein said textile material is a fabric selected from the group consisting of cellulose, cellulose-synthetic blend, and synthetic material.
5. (Original) The nanoparticle processed textile and polymer system of claim 4, wherein said textile material is cellulose.

6. (Original) The nanoparticle processed textile and polymer system of claim 5, wherein said cellulose material is fabricated into a member selected from the group consisting of a diaper, napkin, a table cloth, a bandage, a gauze, an underpants, a medical garment, a surgeon's gown, a cap, a mask, a surgical cover, a patient drape, a carpeting, a bedding material, an underwear, a sock, and a uniform.

7. (Original) The nanoparticle processed textile and polymer system of claim 4, wherein said textile material is a synthetic polymer selected from the group consisting of PET, acrylic and nylon.

8. (Original) The nanoparticle processed textile and polymer system of claim 1, wherein the size of said nanoparticle is about  $10^{-9}$  m to about  $10^{-7}$  m.

9. (Canceled)

10. (Original) The nanoparticle processed textile and polymer system of claim 1, wherein said inorganic nanoparticle is a metal oxide.

11. (Original) The nanoparticle processed textile and polymer system of claim 10, wherein said metal oxide is selected from the group consisting of  $\text{Fe}_2\text{O}_3$ ,  $\text{SiO}_2$ ,  $\text{Ag}_2\text{O}$ , and  $\text{CuO}$ .

12. (Previously presented) The nanoparticle processed textile and polymer system of claim 1, wherein said inorganic nanoparticle is a metal.

13. (Original) The nanoparticle processed textile and polymer system of claim 12, wherein said metal is selected from the group consisting of Ag, Cu, Fe, and Zn.

14. (Previously presented) The nanoparticle processed textile and polymer system of claim 1, wherein said nanoparticle is a carbon-black nanoparticle.

15. (Original) The nanoparticle processed textile and polymer system of claim 1, wherein said embedded nanoparticle imparts a functionality selected from the group

consisting of coloration, a waterproof finishing, soil repellent finishing, fire resistance finishing, wrinkle free finishing, anti-UV finishing, antimicrobial finishing and antistatic finishing.

16-34. (Canceled)

35. (Previously presented) The nanoparticle processed textile and polymer system of claim 1, wherein at least 60% of said embedded nanoparticle are distributed at or near the surface of said textile and polymer system.

36. (Previously presented) The nanoparticle processed textile and polymer system of claim 1, wherein between 70-80% of said embedded nanoparticles are distributed at or near the surface of said textile and polymer system.

37. (Previously presented) The nanoparticle processed textile and polymer system of claim 1, wherein between 80-90% of said embedded nanoparticles are distributed at or near the surface of said textile and polymer system.

38. (Canceled)